



U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE / PUBLIC HEALTH SERVICE / HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION  
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## CURRENT TRENDS

### LISTERIOSIS - United States 1968

During 1968, 105 (24 fatal) cases of listeriosis in humans were reported in the United States; this is 45 more than recorded in 1967 (MMWR, Vol. 17, No. 41). In 1968, 28 states reported cases compared with 24 states in 1967, with the greatest increase in cases noted in Illinois (Table 1). Over 60 percent of the 98 cases in which the date of onset or date of culture was known occurred during the summer and early fall (Figure 1).

Of the 66 instances where age was reported, 56 percent occurred in the ages over 40 years (Table 2). In 1968, as in 1967, the highest percentage of cases in a particular age group occurred in newborns (under 4 weeks of age). The cases were almost equally divided between males and females. At the time of the clinical onset of listeria in-

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fection, 23 percent of the patients were suffering from another primary disease process.

The most frequently reported symptoms associated with the cases in 1968 were fever, meningeal irritation, and septicemia. Treatment with antibacterial agents varied, with ampicillin and penicillin being the most commonly used.

(Continued on page 122)

TABLE I. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	12th WEEK ENDED		MEDIAN 1965 - 1969	CUMULATIVE, FIRST 12 WEEKS		
	March 28, 1970	March 22, 1969		1970	1969	MEDIAN 1965 - 1969
Aseptic meningitis . . . . .	15	33	27	330	351	336
Brucellosis . . . . .	5	3	4	35	21	44
Diphtheria . . . . .	1	3	3	85	32	35
Encephalitis, primary:						
Arthropod-borne & unspecified . . . . .	14	10	17	226	58	152
Encephalitis, post-infectious . . . . .	10	19	19	85	238	274
Hepatitis, serum . . . . .	147	95		1,504	1,184	
Hepatitis, infectious . . . . .	988	1,021	943	12,872	11,017	9,988
Malaria . . . . .	30	57	40	795	550	480
Measles (rubeola) . . . . .	1,071	809	2,802	13,176	5,901	27,309
Meningococcal infections, total . . . . .	50	124	111	820	1,022	1,012
Civilian . . . . .	40	107	105	748	947	941
Military . . . . .	10	17	6	72	75	75
Mumps . . . . .	2,196	3,061	---	30,562	28,377	---
Poliomyelitis, total . . . . .	---	---	---	1	1	3
Paralytic . . . . .	---	---	---	1	1	3
Rubella (German measles) . . . . .	2,041	2,421	---	17,145	11,930	---
Tetanus . . . . .	3	4	3	19	23	25
Tularemia . . . . .	4	---	3	19	23	28
Typhoid fever . . . . .	5	2	5	55	47	59
Typhus, tick-borne (Rky. Mt. spotted fever) . . . . .	---	---	---	---	1	6
Rabies in animals . . . . .	82	79	95	741	849	958

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

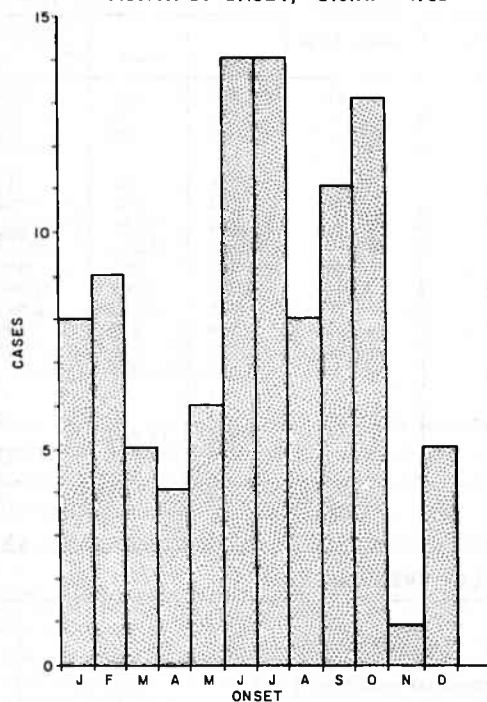
	Cum.		Cum.
Anthrax: . . . . .	1	Psittacosis: N.C.-1, Wis.-1 . . . . .	8
Botulism: . . . . .	1	Rabies in Man: . . . . .	---
Leprosy: Calif.-3, Ill.-1, Tex.-1 . . . . .	24	Rubella congenital syndrome: * . . . . .	17
Leptospirosis: . . . . .	9	Trichinosis: Md.-2 . . . . .	20
Plague: . . . . .	---	Typhus, murine: * . . . . .	1

\*Delayed reports: Rubella congenital syndrome: Colo. delete 1  
Typhus, murine: Tex. 1 (1969)

## LISTERIOSIS - (Continued from front page)

Table 1  
Human Listeriosis - 1967-1968

State	1967	1968	Increase or Decrease in 1968 from 1967	State	1967	1968	Increase or Decrease in 1968 from 1967
Alabama	2	1	-1	Montana	0	0	0
Alaska	1	0	-1	Nebraska	0	0	0
Arizona	2	0	-2	Nevada	0	0	0
Arkansas	1	2	+1	New Hampshire	0	0	0
California	11	8	-3	New Jersey	1	3	+2
Colorado	2	2	0	New Mexico	0	0	0
Connecticut	0	2	+2	New York	4	4	0
Delaware	0	0	0	N. Carolina	4	4	0
Florida	0	3	+3	N. Dakota	1	0	-1
Georgia	2	4	+2	Ohio	2	5	+3
Hawaii	0	1	+1	Oklahoma	0	0	0
Idaho	0	0	0	Oregon	1	1	0
Illinois	3	14	+11	Pennsylvania	6	4	-2
Indiana	0	3	+3	Rhode Island	0	0	0
Iowa	0	1	+1	S. Carolina	1	0	-1
Kansas	1	0	-1	S. Dakota	0	0	0
Kentucky	1	2	+1	Tennessee	1	2	+1
Louisiana	4	3	-1	Texas	5	10	+5
Maine	0	1	+1	Utah	0	0	0
Maryland	0	1	+1	Vermont	0	0	0
Massachusetts	1	7	+6	Virginia	0	0	0
Michigan	0	8	+8	Washington	0	2	+2
Minnesota	1	5	+4	W. Virginia	0	0	0
Mississippi	0	0	0	Wisconsin	2	0	-2
Missouri	0	2	+2	Wyoming	0	0	0
				Totals	60	105	+45

Figure 1  
98 CASES OF HUMAN LISTERIOSIS  
BY MONTH OF ONSET,\* U.S.A. - 1968

\*MONTH OF CULTURE IF MONTH OF ONSET UNKNOWN

Table 2  
Age and Sex Distribution of 66 Cases of Listeriosis  
in Humans - 1968

Age Group	Sex		Total	Percent of Total	Fatalities	Fatality Rate (Percent)
	Male	Female				
0-4 wks	7	14	21	31	5	24
4 wks-9 yrs	2	2	4	6	--	--
10-19 yrs	--	--	--	--	--	--
20-29 yrs	--	3	3	5	--	--
30-39 yrs	1	--	1	2	--	--
40-49 yrs	4	4	8	12	4	50
50-59 yrs	8	8	16	24	6	38
60-69 yrs	4	3	7	11	3	43
70+ yrs	5	1	6	9	4	67
Total	31	35	66	99	22	33

The most frequently isolated serotype was 1B; types 1A and 4B were also common (Table 3). *Listeria monocytogenes* was isolated from cerebrospinal (CSF) fluid in 55 percent of the 89 cases in which the type of material cultured was reported (Table 4). It was isolated from blood in 35 percent of these cases and from both CSF and blood in 7 percent.

Table 3  
Distribution of Human Listeriosis Cases by  
Infecting Serotype  
United States - 1968 and 1967

Infecting Serotype	Number of Cases	
	1968	1967
1*	4	0
1A	16	5
1B	35	17
2*	0	1
4*	1	0
4A	0	2
4B	18	8
4C	1	0
4D	2	4
5	0	1
Untyped	26	0
Not cultured	2	22
Total	105	60

\*No further classification reported

Table 4  
Type of Material Cultured in 89 Cases of Listeriosis

Material Cultured	Number of Cases
Cerebrospinal fluid	49
Blood	31
CSF and Blood	6
Other	3

(Reported by the Office of Veterinary Public Health Services, Epidemiology Program, and the Bacteriology Section, Laboratory Division, NCDC.)

A copy of the report from which these data were derived is available on request from

National Communicable Disease Center  
Attn: Chief, Veterinary Public Health Services  
Epidemiology Program  
Atlanta, Georgia 30333

### EPIDEMIOLOGIC NOTES AND REPORTS LASSA VIRUS INFECTION - Pennsylvania

**NOTE:** As has been previously reported in various news media (*N. Y. Times*, Feb. 18; *Time*, Feb. 23, 1970), two cases of Lassa virus infection have occurred in the United States. The following report describes in some detail the clinical and epidemiologic features of the second case.

The second known case of Lassa virus infection acquired in the U.S.A. recently occurred in a 50-year-old technician in the Yale Arbovirus Research Unit (YARU). The man became ill while visiting relatives in York, Pennsylvania, and on Dec. 3, 1969, was hospitalized there with a 1-week history of fever (100-103°F.), malaise, sweating, muscle pains, anorexia, and occasional nausea and vomiting. Prior to hospitalization, he had seen a physician and received antibiotic, antipyretic, and analgesic medication but had not improved.

On admission, the patient had a temperature of 105°F. and appeared flushed and in acute distress. Physical examination revealed non-exudative pharyngitis, bilateral basilar rales, lower abdominal tenderness, and tender, normal-sized lymph nodes in the femoral area. The initial clinical impression was viral pneumonitis with viremia. Admission laboratory studies included a white blood cell count of 4,800 cells/mm<sup>3</sup>, LDH (lactic dehydrogenase) 715 international units, SGOT 425, and normal serum bilirubin, amylase, cholesterol, alkaline phosphatase, and total proteins. He was treated with ampicillin, tetracycline, and intravenous fluids; however, he remained febrile, developed petechial rash, gradually became more toxic and weaker, suffered cardiorespiratory arrests, and died on December 8. Lassa virus was recovered from an antemortem blood specimen.

Autopsy revealed petechial hemorrhages of the neck, face, shoulders, and back; edema of the larynx, brain, and lungs; and congestion of the lungs and kidneys. Microscopic examination revealed severe acute fatty metamorphosis of the liver, acute interstitial pneumonitis, and widespread atypical hyperplasia of lymph nodes. The immediate cause

of death was diagnosed as acute laryngeal edema. Lassa virus was subsequently isolated from autopsy material by the YARU.

When the patient worked in the YARU, research was being conducted on the Lassa virus, but he had not been involved and had no known contact with the virus. The source of infection has not been determined despite intensive investigation at the laboratory.

After the patient died, 41 hospital personnel who had had contact with him, including the pathologist who nicked his finger while performing the autopsy and three physician members of the cardiopulmonary resuscitation team, were placed under close surveillance. This included daily temperature records and physical examination. None of them has developed illness. In addition, seven relatives (four adults and three children) of the man were also kept under surveillance for 2 weeks either in York or in Puerto Rico, where the man was buried. No illness has been noted in the relatives.

(Reported by John L. Atkins, M.D., Stanley Freeman, M.D., and Robert Evans, M.D., physicians, York Hospital; William D. Schrack, Jr., M.D., Director, Division of Communicable Diseases, Pennsylvania Department of Health; Wilbur Downs, M.D., Director, Yale Arbovirus Research Unit; Rafael Correa Corona, M.D., Director, Division of Preventable Diseases, Puerto Rico Ministry of Health; and two EIS Officers.)

#### Editorial Comment:

As a result of this second case of Lassa virus infection acquired in the Yale Arbovirus Research Unit Laboratory, all work on the virus at YARU has stopped. Further work will be carried out at a special laboratory at NCDC.

During the hospitalization of the three patients with Lassa virus infection treated in the United States, about 75 hospital employees were exposed to the patients, usually under conditions of strict isolation (*MMWR*, Vol. 18, No. 34). To date, none of these persons has developed an illness resembling Lassa virus infection.

## Morbidity and Mortality Weekly Report

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

MARCH 28, 1970 and MARCH 22, 1969 (12th WEEK)

MARCH 28, 1970 AND MARCH 22, 1969 (12th WEEK)											
AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	DIPH- THERIA	ENCEPHALITIS			HEPATITIS			MALARIA	
				Primary including unsp. cases		Post In- fectious	Serum	Infectious			
	1970	1970	1970	1970	1969	1970	1970	1970	1969	1970	Cum. 1970
UNITED STATES.....	15	5	1	14	19	10	147	988	1,021	30	795
NEW ENGLAND.....	-	-	-	2	-	-	5	88	85	-	28
Maine.....	-	-	-	-	-	-	-	15	3	-	1
New Hampshire.....	-	-	-	-	-	-	-	3	4	-	-
Vermont.....	-	-	-	-	-	-	-	3	1	-	1
Massachusetts.....	-	-	-	1	-	-	2	39	37	-	15
Rhode Island.....	-	-	-	-	-	-	-	17	21	-	5
Connecticut.....	-	-	-	1	-	-	3	11	19	-	6
MIDDLE ATLANTIC.....	1	-	-	1	5	2	36	172	197	10	101
New York City.....	-	-	-	-	2	-	26	61	70	5	23
New York, Up-State...	1	-	-	1	-	2	4	20	26	2	25
New Jersey.....	-	-	-	-	-	-	1	39	27	2	29
Pennsylvania.....	-	-	-	-	3	-	5	52	74	1	24
EAST NORTH CENTRAL.....	3	-	-	3	7	2	21	174	216	-	41
Ohio.....	2	-	-	1	1	2	4	30	47	-	10
Indiana.....	-	-	-	1	1	-	-	12	8	-	3
Illinois.....	-	-	-	1	2	-	1	48	84	-	5
Michigan.....	1	-	-	-	3	-	16	70	60	-	23
Wisconsin.....	-	-	-	-	-	-	-	14	17	-	-
WEST NORTH CENTRAL.....	-	-	-	-	1	-	-	37	36	4	58
Minnesota.....	-	-	-	-	1	-	-	3	11	-	-
Iowa.....	-	-	-	-	-	-	-	5	5	-	7
Missouri.....	-	-	-	-	-	-	-	9	6	-	5
North Dakota.....	-	-	-	-	-	-	-	-	1	-	1
South Dakota.....	-	-	-	-	-	-	-	1	1	-	-
Nebraska.....	-	-	-	-	-	-	-	2	-	-	1
Kansas.....	-	-	-	-	-	-	-	17	12	4	44
SOUTH ATLANTIC.....	1	2	1	-	1	1	17	86	66	5	153
Delaware.....	-	-	-	-	-	-	-	1	-	-	1
Maryland.....	-	-	-	-	-	-	3	14	13	-	17
Dist. of Columbia...	-	-	-	-	-	-	-	-	-	-	-
Virginia.....	-	2	1	-	1	-	3	22	5	-	13
West Virginia.....	-	-	-	-	-	-	-	8	3	-	1
North Carolina.....	-	-	-	-	-	-	4	11	12	-	74
South Carolina.....	-	-	-	-	-	-	-	10	12	-	14
Georgia.....	-	-	-	-	-	-	-	2	1	4	23
Florida.....	1	-	-	-	-	1	7	18	20	1	10
EAST SOUTH CENTRAL.....	-	-	-	2	-	1	1	45	56	-	63
Kentucky.....	-	-	-	-	-	-	-	21	26	-	55
Tennessee.....	-	-	-	2	-	1	1	16	17	-	-
Alabama.....	-	-	-	-	-	-	-	1	9	-	7
Mississippi.....	-	-	-	-	-	-	-	7	4	-	1
WEST SOUTH CENTRAL.....	3	-	-	-	-	-	7	105	87	3	140
Arkansas.....	-	-	-	-	-	-	-	1	2	-	1
Louisiana.....	1	-	-	-	-	-	2	19	10	1	8
Oklahoma.....	1	-	-	-	-	-	-	11	5	2	20
Texas.....	1	-	-	-	-	-	5	74	70	-	111
MOUNTAIN.....	-	-	-	-	3	-	1	28	42	-	68
Montana.....	-	-	-	-	3	-	-	3	3	-	2
Idaho.....	-	-	-	-	-	-	-	1	-	-	1
Wyoming.....	-	-	-	-	-	-	-	3	1	-	-
Colorado.....	-	-	-	-	-	-	-	-	15	-	62
New Mexico.....	-	-	-	-	-	-	-	6	10	-	1
Arizona.....	-	-	-	-	-	-	-	10	6	-	2
Utah.....	-	-	-	-	-	-	1	5	7	-	-
Nevada.....	-	-	-	-	-	-	-	-	-	-	-
PACIFIC.....	7	3	-	6	2	4	59	253	236	8	143
Washington.....	1	-	-	1	-	-	-	22	25	-	5
Oregon.....	-	-	-	-	-	-	2	15	15	-	8
California.....	6	3	-	4	2	4	57	215	194	8	113
Alaska.....	-	-	-	-	-	-	-	-	1	-	-
Hawaii.....	-	-	-	1	-	-	-	1	1	-	17
Puerto Rico.....	-	-	-	-	-	-	-	-	27	-	-
Virgin Islands.....	-	-	-	-	-	-	-	-	-	-	-

\*Delayed reports: Hepatitis, infectious: P.R. 2

Malaria: Iowa 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

MARCH 28, 1970 and MARCH 22, 1969 (12th WEEK) -CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		POLIOMYELITIS		
	1970	Cumulative		1970	Cumulative		1970	Cum. 1970	Total	Paralytic	
		1970	1969		1970	1969				1970	Cum. 1970
UNITED STATES.....	1,071	13,176	5,901	50	820	1,022	2,196	30,562	-	-	1
NEW ENGLAND.....	47	313	247	-	35	30	324	4,190	-	-	-
Maine.....	-	2	2	-	-	1	11	484	-	-	-
New Hampshire.....	-	13	60	-	3	-	2	194	-	-	-
Vermont.....	-	1	1	-	3	-	59	394	-	-	-
Massachusetts.....	47	253	33	-	12	15	128	1,302	-	-	-
Rhode Island.....	-	14	7	-	3	3	47	437	-	-	-
Connecticut.....	-	30	144	-	14	11	77	1,379	-	-	-
MIDDLE ATLANTIC.....	38	1,877	1,813	1	127	150	161	3,003	-	-	-
New York City.....	23	279	1,147	-	32	26	56	900	-	-	-
New York, Up-State...	-	64	173	-	24	19	-	4	-	-	-
New Jersey.....	-	832	311	-	42	68	13	851	-	-	-
Pennsylvania.....	15	702	182	1	29	37	92	1,248	-	-	-
EAST NORTH CENTRAL.....	204	2,969	690	3	101	115	358	7,620	-	-	-
Ohio.....	76	901	75	-	47	35	97	1,114	-	-	-
Indiana.....	-	119	193	-	12	17	65	761	-	-	-
Illinois.....	64	1,451	136	3	22	19	38	735	-	-	-
Michigan.....	37	277	78	-	17	36	158	1,862	-	-	-
Wisconsin.....	27	221	208	-	3	8	-	3,148	-	-	-
WEST NORTH CENTRAL.....	58	1,281	191	11	43	53	204	1,971	-	-	-
Minnesota.....	9	21	1	-	4	9	6	188	-	-	-
Iowa.....	8	48	105	1	4	7	146	1,279	-	-	-
Missouri.....	9	216	11	10	33	21	2	45	-	-	-
North Dakota.....	27	91	5	-	1	-	13	168	-	-	-
South Dakota.....	-	41	-	-	-	-	-	2	-	-	-
Nebraska.....	4	819	69	-	1	6	24	246	-	-	-
Kansas.....	1	45	-	-	-	10	13	43	-	-	-
SOUTH ATLANTIC.....	229	1,965	1,008	8	183	189	244	3,020	-	-	-
Delaware.....	11	130	22	-	2	3	7	71	-	-	-
Maryland.....	17	271	11	2	15	18	15	208	-	-	-
Dist. of Columbia...	17	277	-	-	1	3	15	89	-	-	-
Virginia.....	61	499	390	1	16	29	42	629	-	-	-
West Virginia.....	3	79	101	-	4	8	56	955	-	-	-
North Carolina.....	35	222	85	-	34	28	NN	NN	-	-	-
South Carolina.....	50	165	48	3	10	28	45	288	-	-	-
Georgia.....	-	2	1	-	24	28	-	-	-	-	-
Florida.....	35	320	350	2	77	44	64	780	-	-	-
EAST SOUTH CENTRAL.....	33	186	44	4	51	49	154	1,985	-	-	-
Kentucky.....	9	104	18	-	16	13	44	753	-	-	-
Tennessee.....	16	45	11	3	25	23	100	1,119	-	-	-
Alabama.....	8	23	-	1	7	8	10	103	-	-	-
Mississippi.....	-	14	15	-	3	5	-	10	-	-	-
WEST SOUTH CENTRAL.....	320	3,309	1,469	3	132	142	173	2,930	-	-	1
Arkansas.....	-	16	2	-	14	15	6	43	-	-	-
Louisiana.....	2	36	8	2	32	37	2	5	-	-	-
Oklahoma.....	8	101	104	1	9	16	45	950	-	-	-
Texas.....	310	3,156	1,355	-	77	74	120	1,932	-	-	1
MOUNTAIN.....	67	578	134	1	9	28	110	1,374	-	-	-
Montana.....	-	10	3	-	-	3	12	219	-	-	-
Idaho.....	-	5	29	1	2	5	-	52	-	-	-
Wyoming.....	-	-	-	-	1	-	1	11	-	-	-
Colorado.....	2	15	15	-	3	6	32	470	-	-	-
New Mexico.....	3	72	48	-	-	5	23	297	-	-	-
Arizona.....	62	468	37	-	1	6	35	256	-	-	-
Utah.....	-	4	1	-	2	1	7	69	-	-	-
Nevada.....	-	4	1	-	-	2	-	-	-	-	-
PACIFIC.....	75	698	305	19	139	266	468	4,469	-	-	-
Washington.....	29	69	27	3	18	24	239	1,857	-	-	-
Oregon.....	10	112	37	2	10	7	25	336	-	-	-
California.....	33	475	236	14	110	227	188	1,799	-	-	-
Alaska.....	---	1	4	---	-	2	---	185	---	---	-
Hawaii.....	3	41	1	-	1	6	16	292	-	-	-
Puerto Rico.....	---	537	136	---	2	3	---	276	---	---	-
Virgin Islands.....	---	4	1	---	1	-	---	1	---	---	-

\*Delayed reports: Measles: Ariz. 2

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDED

MARCH 28, 1970 and MARCH 22, 1969 (12th WEEK) -CONTINUED

AREA	RUBELLA		TETANUS		TULAREMIA		TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
	1970	Cum. 1970	1970	Cum. 1970	1970	Cum. 1970	1970	Cum. 1970	1970	Cum. 1970	1970	Cum. 1970
UNITED STATES.....	2,041	17,145	3	19	4	19	5	55	-	-	82	741
NEW ENGLAND.....	73	791	1	2	-	-	-	2	-	-	1	33
Maine.....	15	140	-	-	-	-	-	-	-	-	-	1
New Hampshire.....	9	82	-	-	-	-	-	-	-	-	-	-
Vermont.....	-	24	-	-	-	-	-	-	-	-	1	32
Massachusetts.....	35	314	1	2	-	-	-	1	-	-	-	-
Rhode Island.....	6	26	-	-	-	-	-	-	-	-	-	-
Connecticut.....	8	205	-	-	-	-	-	1	-	-	-	-
MIDDLE ATLANTIC.....	59	1,229	1	3	-	-	1	14	-	-	3	53
New York City.....	6	190	1	1	-	-	1	6	-	-	-	-
New York, Up-State..	8	125	-	-	-	-	-	5	-	-	3	51
New Jersey.....	7	409	-	1	-	-	-	1	-	-	-	-
Pennsylvania.....	38	505	-	1	-	-	-	2	-	-	-	2
EAST NORTH CENTRAL....	419	4,008	-	4	2	7	-	4	-	-	9	41
Ohio.....	66	605	-	-	-	2	-	2	-	-	9	19
Indiana.....	90	768	-	1	2	5	-	-	-	-	-	2
Illinois.....	18	412	-	2	-	-	-	1	-	-	-	9
Michigan.....	118	1,124	-	1	-	-	-	1	-	-	-	1
Wisconsin.....	127	1,099	-	-	-	-	-	-	-	-	-	10
WEST NORTH CENTRAL....	239	1,535	-	-	1	3	1	1	-	-	16	101
Minnesota.....	3	61	-	-	-	-	1	1	-	-	5	23
Iowa.....	142	962	-	-	-	-	-	-	-	-	-	19
Missouri.....	11	120	-	-	1	3	-	-	-	-	6	27
North Dakota.....	2	68	-	-	-	-	-	-	-	-	-	10
South Dakota.....	-	1	-	-	-	-	-	-	-	-	-	-
Nebraska.....	78	305	-	-	-	-	-	-	-	-	-	2
Kansas.....	3	18	-	-	-	-	-	-	-	-	5	20
SOUTH ATLANTIC.....	259	1,893	1	6	-	4	-	11	-	-	20	203
Delaware.....	3	18	-	-	-	-	-	-	-	-	-	-
Maryland.....	3	108	-	-	-	-	-	3	-	-	-	1
Dist. of Columbia...	1	9	-	1	-	-	-	-	-	-	-	-
Virginia.....	35	343	-	-	-	-	-	1	-	-	9	102
West Virginia.....	31	471	-	-	-	-	-	-	-	-	1	43
North Carolina.....	1	4	-	-	-	3	-	1	-	-	-	-
South Carolina.....	43	137	-	-	-	-	-	-	-	-	-	-
Georgia.....	-	-	-	1	-	-	-	4	-	-	4	35
Florida.....	142	803	1	4	-	1	-	2	-	-	6	22
EAST SOUTH CENTRAL....	45	936	-	-	-	2	-	1	-	-	4	79
Kentucky.....	-	314	-	-	-	1	-	-	-	-	1	46
Tennessee.....	33	476	-	-	-	1	-	-	-	-	3	20
Alabama.....	6	124	-	-	-	-	-	1	-	-	-	13
Mississippi.....	6	22	-	-	-	-	-	-	-	-	-	-
WEST SOUTH CENTRAL....	503	2,848	-	2	1	3	2	4	-	-	17	136
Arkansas.....	-	4	-	1	-	1	2	3	-	-	2	18
Louisiana.....	43	49	-	1	-	-	-	1	-	-	-	33
Oklahoma.....	25	505	-	-	-	1	-	-	-	-	5	19
Texas.....	435	2,290	-	-	1	1	-	-	-	-	10	66
MOUNTAIN.....	63	674	-	-	-	-	-	4	-	-	-	11
Montana.....	14	151	-	-	-	-	-	1	-	-	-	-
Idaho.....	2	23	-	-	-	-	-	-	-	-	-	-
Wyoming.....	3	39	-	-	-	-	-	-	-	-	-	-
Colorado.....	10	135	-	-	-	-	-	1	-	-	-	6
New Mexico.....	5	37	-	-	-	-	-	1	-	-	-	5
Arizona.....	13	197	-	-	-	-	-	1	-	-	-	-
Utah.....	16	92	-	-	-	-	-	-	-	-	-	-
Nevada.....	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC.....	381	3,231	-	2	-	-	1	14	-	-	12	84
Washington.....	210	1,594	-	-	-	-	-	1	-	-	-	-
Oregon.....	19	279	-	1	-	-	-	-	-	-	-	84
California.....	150	1,206	-	1	-	-	1	12	-	-	12	-
Alaska.....	---	56	---	-	---	-	---	1	---	-	---	-
Hawaii.....	2	96	-	-	-	-	-	-	-	-	-	-
Puerto Rico.....	---	10	---	3	---	-	---	2	---	-	---	9
Virgin Islands.....	---	-	---	-	---	-	---	-	---	-	---	-

\*Delayed reports: Typhoid fever: Tex. 1 (1969)  
Rabies in animals: Ariz. 5

Week No.  
12

TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED MARCH 28, 1970

(By place of occurrence and week of filing certificate. Excludes fetal deaths)

Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes	Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes
	All Ages	65 years and over				All Ages	65 years and over		
<b>NEW ENGLAND:</b>	703	437	44	20	<b>SOUTH ATLANTIC:</b>	1,254	672	70	59
Boston, Mass.-----	220	126	12	5	Atlanta, Ga.-----	123	57	5	8
Bridgeport, Conn.-----	48	28	7	3	Baltimore, Md.-----	284	145	7	17
Cambridge, Mass.-----	21	17	7	—	Charlotte, N. C.-----	61	23	5	2
Fall River, Mass.-----	31	18	—	—	Jacksonville, Fla.-----	104	54	9	10
Hartford, Conn.-----	53	32	2	2	Miami, Fla.-----	110	71	5	4
Lowell, Mass.-----	32	19	2	3	Norfolk, Va.-----	43	20	6	1
Lynn, Mass.-----	12	8	—	—	Richmond, Va.-----	84	52	9	3
New Bedford, Mass.-----	41	29	1	—	Savannah, Ga.-----	32	15	6	—
New Haven, Conn.-----	50	35	2	1	St. Petersburg, Fla.---	107	87	3	1
Providence, R. I.-----	56	35	5	3	Tampa, Fla.-----	81	46	5	4
Somerville, Mass.-----	18	11	1	—	Washington, D. C.-----	185	82	8	8
Springfield, Mass.-----	52	29	5	—	Wilmington, Del.-----	40	20	2	1
Waterbury, Conn.-----	19	13	—	1					
Worcester, Mass.-----	50	37	—	2	<b>EAST SOUTH CENTRAL:</b>	700	356	55	42
<b>MIDDLE ATLANTIC:</b>	3,183	1,879	128	127	Birmingham, Ala.-----	92	43	4	7
Albany, N. Y.-----	53	33	3	1	Chattanooga, Tenn.-----	81	40	16	7
Allentown, Pa.-----	37	22	5	2	Knoxville, Tenn.-----	42	22	6	1
Buffalo, N. Y.-----	134	80	2	12	Louisville, Ky.-----	195	108	14	6
Camden, N. J.-----	25	17	1	—	Memphis, Tenn.-----	99	51	5	8
Elizabeth, N. J.-----	25	14	1	1	Mobile, Ala.-----	49	29	1	—
Erie, Pa.-----	44	15	7	3	Montgomery, Ala.-----	38	16	4	3
Jersey City, N. J.-----	60	36	7	4	Nashville, Tenn.-----	104	47	5	10
Newark, N. J.-----	59	29	6	5					
New York City, N. Y.---	1,697	1,037	70	56	<b>WEST SOUTH CENTRAL:</b>	1,105	583	45	57
Paterson, N. J.-----	42	23	—	1	Austin, Tex.-----	38	28	5	1
Philadelphia, Pa.-----	406	220	2	11	Baton Rouge, La.-----	23	15	—	3
Pittsburgh, Pa.-----	160	89	8	7	Corpus Christi, Tex.---	26	16	2	1
Reading, Pa.-----	68	46	—	—	Dallas, Tex.-----	138	74	4	11
Rochester, N. Y.-----	118	66	3	6	El Paso, Tex.-----	52	28	1	7
Schenectady, N. Y.-----	42	28	2	2	Fort Worth, Tex.-----	72	38	5	3
Scranton, Pa.-----	33	18	—	3	Houston, Tex.-----	225	96	5	3
Syracuse, N. Y.-----	94	56	5	7	Little Rock, Ark.-----	56	27	3	4
Trenton, N. J.-----	36	17	1	4	New Orleans, La.-----	131	62	2	9
Utica, N. Y.-----	15	13	—	—	Oklahoma City, Okla.---	82	37	1	3
Yonkers, N. Y.-----	35	20	5	2	San Antonio, Tex.-----	133	77	—	7
<b>EAST NORTH CENTRAL:</b>	2,550	1,465	82	124	Shreveport, La.-----	64	45	11	3
Akron, Ohio-----	20	13	2	2	Tulsa, Okla.-----	65	40	6	2
Canton, Ohio-----	38	27	—	3					
Chicago, Ill.-----	713	405	19	29	<b>MOUNTAIN:</b>	500	286	32	27
Cincinnati, Ohio-----	165	96	4	13	Albuquerque, N. Mex.---	49	27	6	7
Cleveland, Ohio-----	222	118	7	13	Colorado Springs, Colo.	35	21	7	2
Columbus, Ohio-----	138	72	—	8	Denver, Colo.-----	123	68	7	3
Dayton, Ohio-----	92	51	3	6	Ogden, Utah-----	17	9	4	2
Detroit, Mich.-----	385	226	8	15	Phoenix, Ariz.-----	126	83	1	6
Evansville, Ind.-----	27	21	—	1	Pueblo, Colo.-----	24	19	1	2
Flint, Mich.-----	66	34	4	5	Salt Lake City, Utah---	57	26	1	2
Fort Wayne, Ind.-----	34	22	2	—	Tucson, Ariz.-----	69	33	5	3
Gary, Ind.-----	29	16	3	2					
Grand Rapids, Mich.---	48	33	5	2	<b>PACIFIC:</b>	1,773	1,037	51	71
Indianapolis, Ind.-----	151	84	2	5	Berkeley, Calif.-----	17	13	—	—
Madison, Wis.-----	26	14	2	2	Fresno, Calif.-----	50	31	1	2
Milwaukee, Wis.-----	145	88	3	1	Glendale, Calif.-----	25	21	—	—
Peoria, Ill.-----	40	19	1	5	Honolulu, Hawaii-----	46	26	1	2
Rockford, Ill.-----	28	19	7	—	Long Beach, Calif.---	93	55	3	4
South Bend, Ind.-----	31	19	3	1	Los Angeles, Calif.---	607	330	19	30
Toledo, Ohio-----	100	60	7	6	Oakland, Calif.-----	95	48	3	5
Youngstown, Ohio-----	52	28	—	5	Pasadena, Calif.-----	40	31	1	—
<b>WEST NORTH CENTRAL:</b>	765	480	20	35	Portland, Oreg.-----	115	80	2	3
Des Moines, Iowa-----	53	34	1	3	Sacramento, Calif.---	70	41	1	1
Duluth, Minn.-----	24	15	—	—	San Diego, Calif.-----	117	64	2	7
Kansas City, Kans.---	39	15	4	5	San Francisco, Calif.--	186	108	8	10
Kansas City, Mo.-----	132	85	1	3	San Jose, Calif.-----	51	33	2	1
Lincoln, Nebr.-----	31	29	2	—	Seattle, Wash.-----	156	92	5	3
Minneapolis, Minn.---	75	48	2	4	Spokane, Wash.-----	57	34	1	—
Omaha, Nebr.-----	68	43	1	2	Tacoma, Wash.-----	48	30	2	3
St. Louis, Mo.-----	224	125	7	10					
St. Paul, Minn.-----	62	49	—	4	<b>Total</b>	12,533	7,195	527	562
Wichita, Kans.-----	57	37	2	4	<b>Expected Number</b>	13,017	7,654	488	495
Las Vegas, Nev.*-----	22	10	—	4	<b>Cumulative Total</b> (includes reported corrections for previous weeks)	169,758	98,259	8,398	7,393

\*Mortality data are being collected from Las Vegas, Nev., for possible inclusion in this table, however, for statistical reasons, these data will be listed only and not included in the total, expected number, or cumulative total, until 5 years of data are collected.

## INTERNATIONAL NOTES

## ANTHRAX - United Kingdom and Republic of Ireland

In the last 9 years since anthrax became generally notifiable, 85 cases of anthrax have been recorded in the Registrar General's returns for England and Wales (Table 5). During the same period, 57 human cases in which *Bacillus anthracis* was isolated have been reported by laboratories in England, Wales, Northern Ireland, and Scotland. Neither estimate of the numbers of cases is likely to be complete: some cases may be diagnosed only on clinical grounds, some which are reported by laboratories may not be notified to the Registrar General, and some cases, for various reasons, may not be recorded at all.

Table 5  
Cases of Anthrax - 1961-69

Year	Recorded by Registrar General	Reported by Laboratories*
1961	8	3
1962	8	5
1963	14	6
1964	7	4
1965	7	7
1966	10	6
1967	19	15
1968	9**	6
1969	3**	5
Total	85	57

\*1961-66 England and Wales only.

1967-69 England, Wales, N. Ireland, and Scotland.

\*\*Provisional figures.

The 26 cases in which *B. anthracis* was isolated and six other cases of clinical anthrax reported by laboratories in the last 3 years have been analyzed in more detail. Two patients died; in one the organism was isolated by blood culture, and in the other, who had been receiving intermittent penicillin therapy, scanty gram-positive rods were seen in a blood film.

The ages of patients ranged from 16 to 63 years, and no one age group was affected more than another. All but four of the 30 patients whose sex was recorded were males. The most frequently stated occupations were farmer, gardener, and workers in bone meal or gelatin factories, tanneries or mills, or abattoirs or knacker's yards. Lesions were most often located, in order, on the neck, arms, face, or hands. The patients were known to have handled bone meal in 14 cases, skins in two cases, cows in two cases (in one the cow had died), and pigs in one case. In eight cases, *B. anthracis* was isolated from a possible source of infection.

The commonest non-human sources from which *B. anthracis* has been isolated are bone meal and other bone products, wool and goat hair, skins, and infected animals. (Reported by David L. Miller, M.D., Epidemiologist, Public Health Laboratory Service, London, England; and the British Medical Journal, Vol. 1, 21 March 1970).

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MORBIDITY AND MORTALITY WEEKLY REPORT  
ATLANTA, GEORGIA 30333

NOTE: THE DATA IN THIS REPORT ARE PROVISIONAL AND ARE BASED ON WEEKLY TELEGRAMS TO THE NCDC BY THE INDIVIDUAL STATE HEALTH DEPARTMENTS. THE REPORTING WEEK CONCLUDES AT CLOSE OF BUSINESS ON FRIDAY; COMPILED DATA ON A NATIONAL BASIS ARE OFFICIALLY RELEASED TO THE PUBLIC ON THE SUCCEEDING FRIDAY.

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